

WHAT IS CLAIMED IS:

1. A mounting apparatus, comprising:

a heater head for bonding by thermocompression a display board and a flexible printed circuit board in such a way that a first terminal electrode row of said display board and a second terminal electrode row of said flexible printed circuit board are electrically connected;

heater head driving means for driving said heater head in such a way that said heater head compresses said display board and said flexible printed circuit board by a prescribed load; and

stretch amount controlling means for adjusting a load change per unit of time after said heater head driving means starts compressing said heater head against said flexible printed circuit board as well as a time at which a required load is attained to control a stretch amount of said second terminal electrode row caused by the thermocompression.

2. The mounting apparatus according to claim 1, further comprising:

displacement amount detecting means for detecting a displacement amount of positioning patterns formed on either side of said second terminal electrode row with respect to reference patterns formed on either side of said first terminal electrode row;

stretch amount calculating means for calculating the stretch amount of said second terminal electrode row based on said displacement amount; and

correction amount calculating means for calculating a correction amount corresponding to a difference between stretch amounts of said first and second terminal electrode rows based on the stretch amount of said second terminal electrode row.

3. The mounting apparatus according to claim 2, wherein said stretch amount controlling means controls by feeding back said correction amount.

4. The mounting apparatus according to claim 2, further comprising data holding means for holding data regarding a relationship between an operation parameter and the stretch amount of said second terminal electrode row, wherein said stretch amount controlling means
5 determines a necessary control method from data held in said data holding means based on said correction amount for control.

5. A mounting apparatus, comprising:
a heater head bonding by thermocompression a display board and a flexible printed circuit board in such a way that a first terminal electrode row of said display board and a second terminal electrode row of said flexible
5 printed circuit board are electrically connected;

heater head driving means for driving said heater head in such a way that said heater head compresses said display board and said flexible printed circuit board by a prescribed load; and

10 stretch amount controlling means for adjusting a speed at which said heater head driving means drives said heater head toward said flexible printed circuit board to control a stretch amount of said second terminal electrode row caused by the thermocompression.

6. The mounting apparatus according to claim 5, further comprising:

displacement amount detecting means for detecting a displacement amount of positioning patterns formed on either side of said second terminal
5 electrode row with respect to reference patterns formed on either side of said first terminal electrode row;

stretch amount calculating means for calculating the stretch amount of said second terminal electrode row based on said displacement amount; and

10 correction amount calculating means for calculating a correction amount corresponding to a difference between stretch amounts of said first terminal electrode row and said second terminal electrode row based on the stretch amount of said second terminal electrode row.

7. The mounting apparatus according to claim 6, wherein said stretch amount controlling means controls by feeding back said correction amount.

5 8. The mounting apparatus according to claim 6, further comprising data holding means for holding data regarding a relationship between an operation parameter and the stretch amount of said second terminal electrode row, wherein said stretch amount controlling means determines a necessary control method from data held in said data holding means based on said correction amount for control.

5 9. A mounting method of bonding by thermocompression with use of a heater head a display board and a flexible printed circuit board in such a way that a first terminal electrode row of said display board and a second terminal electrode row of said flexible printed circuit board are electrically connected, wherein a load change per unit of time after said heater head starts compressing said flexible printed circuit board as well as a time at which a required load is attained are controlled, so that a stretch amount of said second terminal electrode row caused by thermocompression is controlled.

10. The mounting method according to claim 9, wherein said control of the load change and the time at which the required load is attained consists of substantially stabilizing the load change and the time at which the required load is attained.

11. The mounting method according to claim 9, wherein said control of the load change and the time at which the required load is attained consists of quantitative control to set the stretch amount at a desired value.

12. The mounting method according to claim 9, comprising:
the relative position determining step of determining a relative

positional relationship between reference patterns formed on either side of
said first terminal electrode row and a relative positional relationship
5 between positioning patterns formed on either side of said second terminal
electrode row;
the preliminary bonding step of preliminary fixing a relative
position of said heater head with respect to said flexible printed circuit board
performed after said relative position determining step;
10 the stretch amount calculating step of calculating the stretch
amount of said second terminal electrode row based on information obtained
from said relative position determining step; and
the correction amount calculating step of calculating a correction
amount corresponding to a difference between stretch amounts of said first
15 terminal electrode row and said second terminal electrode row based on the
stretch amount of said second terminal electrode row; and
the regular bonding step performed after said preliminary bonding
step.

13. The mounting method according to claim 9, comprising:
the displacement amount detecting step of detecting a displacement
amount of positioning patterns formed on either side of said second terminal
electrode row with respect to reference patterns formed on either side of said
5 first terminal electrode row;
the stretch amount calculating step of calculating the stretch
amount of said second terminal electrode row based on said displacement
amount; and
the correction amount calculating step of calculating a correction
10 amount corresponding to a difference between stretch amounts of said first
terminal electrode row and said second terminal electrode row based on the
stretch amount of said second terminal electrode row, wherein quantitative
control is performed by feeding back the correction amount.

14. The mounting method according to claim 13, comprising:
the preliminary bonding step of preliminary fixing a relative

position of said heater head with respect to said flexible printed circuit board;

- 5 said displacement amount detecting step performed after said preliminary bonding step; and
 the regular bonding step performed after said displacement amount detecting step.

15. A mounting method of bonding by thermocompression a display board and a flexible printed circuit board by means of a heater head in such a way that a first terminal electrode row of said display board and a second terminal electrode row of said flexible printed circuit board are electrically
5 connected, wherein a speed at which said heater head is moved toward said flexible printed circuit board is controlled, so that a stretch amount of said second terminal electrode row caused by thermocompression is controlled.

16. The mounting method according to claim 15, comprising:
 the relative position determining step of determining a relative positional relationship between reference patterns formed on either side of said first terminal electrode row and a relative positional relationship
5 between positioning patterns formed on either side of said second terminal electrode row;
 the preliminary bonding step of preliminary fixing a relative position of said heater head with respect to said flexible printed circuit board performed after said relative position determining step;
10 the stretch amount calculating step of calculating a stretch amount of said second terminal electrode row based on information obtained from said relative position determining step;
 the correction amount calculating step of calculating a correction amount corresponding to a difference between stretch amounts of said first
15 terminal electrode row and said second terminal electrode row based on the stretch amount of said second terminal electrode row; and
 the regular bonding step performed after said preliminary bonding step.

17. The mounting method according to claim 15, comprising:
the displacement amount detecting step of detecting a displacement
amount of positioning patterns formed on either side of said second terminal
electrode row with respect to reference patterns formed on either side of said
5 first terminal electrode row;
the stretch amount calculating step of calculating a stretch amount
of said second terminal electrode row based on said displacement amount;
and
10 the correction amount calculating step of calculating a correction
amount corresponding to a difference between stretch amounts of said first
terminal electrode row and said second terminal electrode row based on the
stretch amount of said second terminal electrode row, wherein quantitative
control is performed by feeding back the correction amount.

18. The mounting method according to claim 17, comprising:
the preliminary bonding step of preliminary fixing a relative
position of said heater head with respect to said flexible printed circuit
board;
5 said displacement amount detecting step performed after said
preliminary bonding step; and
the regular bonding step performed after said displacement amount
detecting step.